

# LANCHESTER'S EQUATIONS IN MODEL OF CONFLICTING SIDES

**I. A. Raynovskyy<sup>1</sup>**

<sup>1</sup>Institute of Mathematics of NAS of Ukraine, Kyiv, Ukraine

*ihor.raynovskyy@gmail.com, raynovskyy@imath.kiev.ua*

This abstract introduces a work that applies Lanchester's equations to model various scenarios involving two conflicting sides [1], utilizing the Python programming language. Lanchester's equations are mathematical models used to analyze combat situations, originally developed by Frederick Lanchester during World War 1. By implementing these equations in Python, the study aims to simulate and study the dynamics of conflicts between two opposing forces.

The work focuses on developing a computational framework that allows for the exploration of different scenarios by varying factors such as force strength on each side, effectiveness or attrition rates. By incorporating Python's programming capabilities, the model provides a flexible and customizable platform for simulating and analyzing the outcomes of conflicts.

The study aims to gain insights into the dynamics of conflicts and the factors that influence the outcome. Furthermore, it serves as a valuable tool for academic research, allowing for the exploration and analysis of various conflict scenarios in a controlled and computational environment.

*The author is thankful for financial support to the National Research Fund of Ukraine, Project 2020.02/0089.*

1. Romanchenko I.S. *at al.* Fundamentals of Military Theoretical Studies: New Realities and Technologies: a monograph. — Kyiv: The National Defence University of Ukraine, V. 4, 2020, 277 p.